

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the Application.

Claim 1. (Previously presented) A method of operating a communication system to reduce echo of a narrowband first signal in a wideband second signal, the method comprising:

receiving the first signal having spectral components within a first frequency band;

accepting the second signal having spectral components in a second frequency band comprising the first frequency band and having spectral components extending beyond the first frequency band;

removing a modified version of the first signal from the second signal to produce a third signal; and

processing the third signal based upon a level of spectral components of the second signal extending beyond the first frequency band, to further reduce echo of the first signal in the third signal.

Claim 2. (Original) The method of claim 1 wherein the first frequency band comprises from approximately 0 Hz to approximately 4 KHz.

Claim 3. (Original) The method of claim 1 wherein the second frequency band comprises from approximately 4 KHz to approximately 8 KHz.

Claim 4. (Original) The method of claim 1 wherein the first frequency band and the second frequency band are essentially non-overlapping.

Claim 5. (Original) The method of claim 1 wherein the modification of the first signal comprises at least one of delaying and attenuating.

Claim 6. (Original) The method of claim 1 wherein the processing comprises:
attenuating the third signal when the level of spectral components of the second signal in the second frequency band is below a predetermined level; and

refraining from attenuating the third signal when the level of spectral components of the second signal in the second frequency band is at or above the predetermined level.

Claim 7. (Original) The method of claim 1 wherein the communication system comprises a packet network.

Claim 8. (Cancelled).

Claim 9. (Cancelled).

Claim 10. (Previously presented) A computer-readable storage, having stored thereon a computer program having a plurality of code sections for operating a communication system to reduce echo of a narrowband first signal in a wideband second signal, the code sections executable by a processor for causing the processor to perform the operations comprising:

receiving the first signal having spectral components within a first frequency band;

accepting the second signal having spectral components in a second frequency band comprising the first frequency band and having spectral components extending beyond the first frequency band;

removing a modified version of the first signal from the second signal to produce a third signal; and

processing the third signal based upon a level of spectral components of the second signal extending beyond the first frequency band, to further reduce echo of the first signal in the third signal.

Claim 11. (Previously presented) The computer-readable storage of claim 10 wherein the first frequency band comprises approximately 0 Hz to approximately 4 KHz.

Claim 12. (Previously presented) The computer-readable storage of claim 10 wherein the second frequency band comprises approximately 4 KHz to approximately 8 KHz.

Claim 13. (Previously presented) The computer-readable storage of claim 10 wherein the first frequency band and the second frequency band are essentially non-overlapping.

Claim 14. (Previously presented) The computer-readable storage of claim 10 wherein the modification of the first signal comprises at least one of delaying and attenuating.

Claim 15. (Previously presented) The computer-readable storage of claim 10 wherein the processing comprises:

attenuating the third signal when the level of spectral components of the second signal in the second frequency band is below a predetermined level; and

refraining from attenuating the third signal when the level of spectral components of the second signal in the second frequency band is at or above the predetermined level.

Claim 16. (Previously presented) The computer-readable storage of claim 10 wherein the communication system comprises a packet network.

Claim 17. (Previously presented) A signal processing system for reducing echo of a narrowband first signal in a wideband second signal, the system comprising:

a first input for receiving a first signal comprising energy in a first frequency band;

a second input for receiving a second signal comprising energy in a second frequency band comprising the first frequency band and having spectral components extending beyond the first frequency band;

an echo canceller that receives the first signal and the second signal, the echo canceller producing a third signal; and

a non-linear processor that attenuates the third signal based upon a level of energy extending beyond the first frequency band of the second input, to further reduce echo of the first signal in the third signal.

Claim 18. (Previously presented) The system of claim 17 wherein the first frequency band comprises from approximately 0 Hz to approximately 4 KHz.

Claim 19. (Previously presented) The system of claim 17 wherein the second frequency band comprises from approximately 4 KHz to approximately 8 KHz.

Claim 20. (Previously presented) The system of claim 17 wherein the first frequency band and the second frequency band are essentially non-overlapping.

Claim 21. (Previously presented) The system of claim 17 wherein the communication system comprises a packet network.

Claim 22. (Previously presented) A signal processing system for reducing echo of a narrowband first signal in a wideband second signal, the system comprising:

at least one processor operable to, at least:

receive a first signal comprising energy in a first frequency band;

receive a second signal comprising energy in a second frequency band comprising the first frequency band and having spectral components extending beyond the first frequency band;

receive the first signal and the second signal, the echo canceller producing a third signal; and

attenuate the third signal based upon a level of energy extending beyond the first frequency band of the second input, to further reduce echo of the first signal in the third signal.

Claim 23. (Previously presented) The system of claim 22 wherein the first frequency band comprises from approximately 0 Hz to approximately 4 KHz.

Claim 24. (Previously presented) The system of claim 22 wherein the second frequency band comprises from approximately 4 KHz to approximately 8 KHz.

Claim 25. (Previously presented) The system of claim 22 wherein the first frequency band and the second frequency band are essentially non-overlapping.

Claim 26. (Previously presented) The system of claim 22 wherein the communication system comprises a packet network.